CLAIMS

WE CLAIM:

1. An isolated nucleic acid comprising nucleotides 1 to 4917 of SEQ ID NO:1, a functional fragment thereof, or a complement of any of the foregoing.

2. The isolated nucleic acid of claim 1, wherein the functional fragment comprises nucleotides 4868 to 4917 of SEQ ID NO:1.

3. The isolated nucleic acid of claim 1, wherein the functional fragment comprises nucleotides 4827 to 4917 of SEQ ID NO:1.

4. A nucleic acid comprising nucleotides 1 to 4917 of SEQ ID NO:1 or a functional fragment thereof operably linked to a heterologous reporter gene.

5. The nucleic acid of claim 4, wherein the nucleic acid is an expression vector.

6. A host cell comprising the vector of claim 5.

7. A method for determining whether a fragment of the 4917 bp upstream of the TSP of human CRF-BP gene (nucleotides 1-4917 of SEQ ID NO:1) is functional under a set of conditions of interest, the method comprising the steps of:

(a) providing a nucleic acid that comprises the fragment and a heterologous reporter gene operably linked to the fragment;

(b) subjecting the nucleic acid to the set of conditions of interest;

(c) measuring the expression level of the reporter gene; and

(d) comparing the expression level to a suitable control wherein a higher or lower than control expression level indicates that the fragment is functional.

8. An isolated nucleic acid comprising a functional fragment identified by the method of claim 7.

9. A nucleic acid comprising a functional fragment identified by the method of claim 7 and a heterologous reporter gene operably linked to the functional fragment.

10. A host cell comprising the nucleic acid of claim 9.

11. A method for screening for an agent that may alter the activity of human CRF-BP promoter, the method comprising the steps of:

(a) providing a nucleic acid that comprises nucleotides 1 to 4917 of SEQ ID NO:1 or a functional fragment thereof operably linked to a reporter gene;

(b) subjecting the nucleic acid to conditions suitable for nucleotides 1 to 4917 of SEQ ID NO:1 or the functional fragment to drive the expression of the reporter gene in the presence of a test agent;

(c) evaluating the expression of the reporter gene compared to a control nucleic acid that is exposed to the same conditions but without the test agent wherein a higher or lower expression than that of the control nucleic acid indicates that the agent may alter human CRF-BP promoter activity.

12. The isolated nucleic acid of claim 11, wherein the functional fragment comprises nucleotides 4868 to 4917 of SEQ ID NO:1.

13. The isolated nucleic acid of claim 11, wherein the functional fragment comprises nucleotides 4827 to 4917 of SEQ ID NO:1.

14. The method of claim 11, wherein the expression is evaluated at the mRNA level.

15. The method of claim 11, wherein the expression is evaluated at the protein level.

16. The method of claim 11, wherein the nucleic acid is provided in a host cell and wherein the host cell is exposed to the test agent in step (b).

17. A method of determining which region of the human CRF-BP promoter interacts with an agent that is known to alter the activity of the promoter, the method comprising the steps of:

(a) providing multiple groups of nucleic acids in which a reporter gene is operably linked to a fragment of the 4917 bp upstream of the TSP of the human CRF-BP promoter and wherein the nucleic acids of the same group contain the same fragment and the nucleic acids in different groups contain different fragments;

(b) subjecting the nucleic acids to conditions suitable for the fragments to drive the expression of the reporter gene in the presence of the agent;

(c) measuring and comparing the reporter gene expression level of each of the nucleic groups to that of corresponding controls that are not exposed to the agent to determine the effect of the agent on the promoter activity of different fragments; and

(d) comparing the effect of the agent on the promoter activity of different fragments.

18. The method of claim 17, wherein the nucleic acids are provided in host cells and wherein the host cells are exposed to the test agent in step (b).

19. A method for screening for an agent that can affect the modulation of the activity of human CRF-BP promoter by cAMP level, the method comprising the steps of:

(a) providing a host cell that comprises a human CRF-BP promoter sequence and a reporter gene operably linked to the promoter sequence wherein the expression of the reporter gene controlled by the promoter sequence can be modulated by cellular cAMP level;

(b) changing the cellular cAMP level;

(c) exposing the cell to a test agent; and

(d) determining the expression level of the reporter gene and comparing the expression level to that of a control cell that is not exposed to the test agent wherein a higher or lower than control expression indicates that the test agent can affect the modulation of the human CRF-BP promoter activity by cAMP level.